



One Cyclotron Road, MS76-225  
Berkeley, California 94720

Ernest Orlando Lawrence  
Berkeley National Laboratory

January 4, 2013

State of California  
Office of Planning and Research  
1400 Tenth Street  
Sacramento, California 95814

## **NOTICE OF PREPARATION DRAFT ENVIRONMENTAL IMPACT REPORT**

**Project Title:** Richmond Bay Campus 2013 Long Range Development Plan  
and Phase 1 Development  
**Project Location:** Richmond Bay Campus, Richmond Field Station  
**County:** Contra Costa

### **Project Description:**

The University of California (UC) proposes to establish a new major research campus at properties it owns in Richmond, California, for consolidation of biosciences programs of the Lawrence Berkeley National Laboratory (LBNL) and for development of additional research-related facilities for both LBNL and UC Berkeley. This campus would jointly serve UC LBNL and UC Berkeley. The proposed 2013 Long Range Development Plan (LRDP) for the Richmond Bay Campus (RBC) would guide campus development through 2050. Initial development under Phase 1 would occur through 2018. More information appears in the project description included in the Initial Study attached to this Notice of Preparation.

### **Agency Review and Comments:**

In compliance with the State and University of California Guidelines for implementation of the California Environmental Quality Act (CEQA), this Notice of Preparation is hereby sent to inform you that UC is preparing a Draft Environmental Impact Report (EIR) on the RBC 2013 LRDP and Phase 1 development. The EIR will provide program-level analysis of the full LRDP development and project-level analysis of Phase 1 development.

As Lead Agency, UC needs to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project (anticipated areas of analysis are identified in the attached Initial Study). Please designate a contact person in your agency and send your response to the address below.

**Environmental Review Process:**

UC will be the Lead Agency and will prepare a Program/Project EIR to evaluate and disclose the potential environmental effects of implementing the proposed 2013 LRDP and Phase 1 development. The EIR will include a program-level environmental review of RBC development through 2050 and a project-specific analysis of the environmental effects from construction and operation of Phase 1. The LRDP and EIR would also inform decisions of the state Department of Toxic Substances Control regarding workplans for remediation of legacy pollutants at portions of the RBC site that are subject to a site investigation and remediation order and are proposed for development.

The LRDP EIR will programmatically analyze a series of related actions at the University of California's Richmond properties as part of the RBC 2013 LRDP. The programmatic evaluation will serve as the base environmental review for tiering purposes when implementing the 2013 LRDP. Future projects proposed within the scope of the RBC 2013 LRDP will be analyzed to determine whether there are any impacts requiring further CEQA documentation or whether any documentation is required in addition to the LRDP EIR.

The EIR's project-specific analysis will provide a comprehensive and detailed evaluation of the environmental impacts of implementing the Phase 1 development.

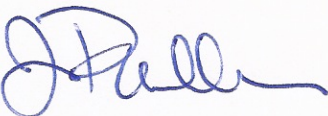
An Initial Study was prepared pursuant to the UC CEQA Guidelines to identify the environmental issues that will be addressed in the RBC 2013 LRDP EIR. The Initial Study is attached to this Notice of Preparation. Copies of the Initial Study are available for review at the main branch of the Richmond Public Library, 325 Civic Center Plaza, Richmond; the UC Berkeley Doe Memorial Library; and online at <http://www.lbl.gov/Community/env-rev-docs.html>.[lbl.gov](http://www.lbl.gov).

Due to time limits mandated by State law, this Notice of Preparation will include a 30-day comment period that extends from January 4, 2013, to February 4, 2013. Comments must be received before 5:00 PM on February 4, 2013, to be considered in the preparation of the RBC 2013 LRDP EIR. They may be e-mailed to [LRDP-EIR@lbl.gov](mailto:LRDP-EIR@lbl.gov) or mailed to:

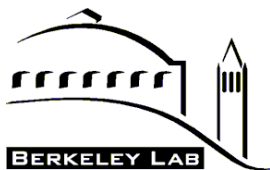
Jeff Philliber  
Environmental Planner  
Lawrence Berkeley National Laboratory  
One Cyclotron Road, MS 76-225  
Berkeley, CA 94720

A public scoping meeting for the RBC 2013 LRDP EIR will be held from 7:00 to 9:00 PM on January 23, 2013, at the Richmond City Council Chambers, 403 Civic Center Plaza. The US Department of Energy may use this scoping meeting to fulfill requirements under the National Environmental Policy Act and under 10 CFR Part 1022 regarding floodplain and wetland analysis.

Sincerely,



Jeff Philliber  
LBNL Environmental Planning Group



One Cyclotron Road, MS 76-225  
Berkeley, California 94720

Ernest Orlando Lawrence  
Berkeley National Laboratory

January 4, 2013

## INITIAL STUDY RICHMOND BAY CAMPUS 2013 LONG RANGE DEVELOPMENT PLAN AND PHASE 1 DEVELOPMENT

### I. PROJECT INFORMATION

**Project Title:** Richmond Bay Campus 2013 Long Range  
Development Plan and Phase 1 Development

**Lead Agency:** University of California

**Contact Person:** Jeff Philliber, (510) 486-5257

**Project Location:** 1301 South 46th Street, Richmond, California 94804

### II. PROJECT DESCRIPTION

See below.

### III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below may be potentially affected by this project and will be carried forward for full analysis in the 2013 Long Range Development Plan and Phase 1 Development Environmental Impact Report:

<input checked="" type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture/Forest Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology/Soils
<input checked="" type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards & Haz. Materials	<input checked="" type="checkbox"/> Hydrology/Water Quality
<input checked="" type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Mineral Resources	<input checked="" type="checkbox"/> Noise
<input checked="" type="checkbox"/> Population/Housing	<input checked="" type="checkbox"/> Public Services	<input checked="" type="checkbox"/> Recreation
<input checked="" type="checkbox"/> Transportation/Traffic	<input checked="" type="checkbox"/> Utilities/Service Systems	<input checked="" type="checkbox"/> Mandatory Findings of Significance



**IV. DETERMINATION: (To be completed by the Lead Agency)**

On the basis of the initial evaluation that follows:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

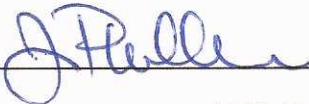
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

■ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.

Signature



Date 12-30-12

Jeff Philliber

LBNL Environmental Planner

Printed Name

## **Richmond Bay Campus 2013 Long Range Development Plan and Phase 1 Development PROJECT DESCRIPTION**

### **Contents**

- 1.0 Introduction
- 2.0 Project Location and Surrounding Land Uses
- 3.0 Existing Site Conditions
- 4.0 2013 Long Range Development Plan
- 5.0 Phase 1 Development
- 6.0 Alternatives

### **1.0 Introduction**

The University of California (UC or the University) proposes to establish a new major research campus, at properties it owns in Richmond, California, for consolidation of biosciences projects and activities managed or led by the University of California Lawrence Berkeley National Laboratory (UC LBNL) and for development of additional facilities for both LBNL<sup>1</sup> and UC Berkeley for research and development focused on energy, environment, and health. The University proposes to rename the properties as the “Richmond Bay Campus” (hereinafter “RBC”).

The University is preparing a Long Range Development Plan (LRDP) in support of the research and academic goals for this proposed new research campus. An LRDP is defined by statute (Public Resources Code 21080.09) as a “physical development and land use plan to meet the academic and institutional objectives for a particular campus or medical center of public higher education.” The proposed RBC 2013 LRDP is being prepared to guide the growth and development of the campus through the year 2050. The University and State law also require an Environmental Impact Report (EIR), pursuant to the California Environmental Quality Act (CEQA), to be prepared for any new or updated LRDP.

The University is also developing Phase 1 development plans that would involve constructing three buildings and associated infrastructure on the RBC. Two of these buildings would be approximately 110,000 to 150,000 gross square feet (gsf) each, and one of these buildings would

---

<sup>1</sup> Lawrence Berkeley National Laboratory is a federally funded research and development center managed and operated by the University of California under a contract with the Department of Energy.

be up to 300,000 gsf for a total of up to 600,000 gsf. These facilities would house the following institutions:

- **Joint Genome Institute (JGI)**, which UC LBNL manages for the U.S. Department of Energy (DOE)
- **Joint BioEnergy Institute (JBEI)**, a multi-institutional partnership led by UC LBNL
- **Advanced Biofuels Process Development Unit (ABPDU)**, which UC LBNL manages for DOE
- **Knowledge Base (KBase)**, a multi-institutional collaboration led by UC LBNL.

In addition, the facilities would house other LBNL biosciences projects and activities, and a conference facility, a dining facility, and various support facilities. Construction of Phase I would commence in 2014 and the buildings would be occupied starting in 2017 or 2018. Development of Phase I would add approximately 1,000 to the average daily population (adp) of the site, increasing the adp from 300 to 1,300.

The LRDP EIR will provide a comprehensive program-level analysis of the RBC 2013 LRDP and its potential impacts on the environment, in accordance with Section 15168 of the CEQA Guidelines. In accordance with Section 15161 of the CEQA Guidelines, the LRDP EIR will also include project-specific analysis of the first phase of development to be built and operated under the RBC 2013 LRDP. The 2013 LRDP would establish RBC growth parameters through 2050; LRDP amendment(s) would be required in order to exceed those growth parameters. Subsequent proposals for specific development at the RBC would be reviewed for consistency with the LRDP, its EIR, and any necessary further compliance with CEQA.

The RBC LRDP is a unique joint proposal of UC LBNL and UC Berkeley. While LBNL and UCB have a close existing partnership and both are managed under the auspices of the Regents of the University of California, the institutions are distinct administrative entities. Upon determination by the Regents to approve the 2013 LRDP and certify the EIR, however, UC LBNL and UC Berkeley expect to establish a joint operating committee to oversee the Richmond Bay Campus and implement the LRDP. The committee would advise the UC Berkeley Chancellor and the LBNL Director.

As of fall 2012, the University has conducted three community-wide meetings related to its planning for the RBC and its LRDP.<sup>2</sup> This Notice of Preparation commences the University's

---

<sup>2</sup>While not the topic of this Notice of Preparation, the University recognizes that a key concern voiced at community meetings is whether the RBC will create jobs for the Richmond community. UC LBNL and UC Berkeley expect the new

CEQA process and invites interested agencies and members of the public to comment on the scope of the environmental analysis and evaluations of alternatives. A Draft LRDP EIR is expected to be available for public and agency review in early or mid-2013. The University expects to submit the draft 2013 LRDP and Final LRDP EIR to The Regents of the University of California for their consideration for approval in late 2013. The Department of Energy expects to conduct a National Environmental Policy Act (NEPA) review of this project concurrently and in coordination with the timing of this CEQA process. The LRDP and LRDP EIR would also inform decisions of the state Department of Toxic Substances Control regarding workplans for remediation of legacy pollutants at portions of the RBC site subject to a site investigation and remediation order and proposed for development (see section 3.1, below).

## **2.0 Project Location and Surrounding Land Uses**

The approximately 133-acre RBC site is located at 1301 South 46th Street in the South Shoreline area of the City of Richmond, approximately 5 miles northwest of the UC Berkeley campus and the LBNL site in Berkeley.<sup>3</sup> The properties are bounded on the west by a Pacific Gas and Electric (PG&E) service station, on the northwest by Regatta Boulevard, on the northeast by Meade Street, on the east by South 46th Street, and on the south by the San Francisco Bay. Interstate 580 (I-580) runs parallel to Meade Street along the northeastern boundary of the site.

Land uses surrounding the RBC site include industrial/office uses and a major interstate freeway, with low-/medium-density residential neighborhoods. Regatta Boulevard, along the northern boundary of the RBC, is adjacent to a railroad spur and a business complex developed with one- to two-story buildings. Bio-Rad Laboratories, a private research equipment manufacturing company, is located immediately west of the uplands parcel. The adjacent property to the east is the location of former chemical production operations previously owned by several entities, including Stauffer and Zeneca, and is currently owned by Cherokee Simeon Venture I, LLC.

The Marina Bay residential neighborhood, across Meeker Slough and southwest of the RBC site, consists of a mix of multi- and single-family residences. Low- and medium-density residential uses are also located across I-580, north of the Meade Street boundary of the RBC site.

---

campus to be a catalyst for new innovation and clean industries in the area that would generate jobs; and both institutions expect to partner with the City and community to bring job training and opportunity to the area.

<sup>3</sup> The University owns properties in Richmond that total 194.6 acres. The properties are composed of four parcels: a 109.5-acre parcel that contains the currently developed upland portion known as the Richmond Field Station; a recently acquired 23.4-acre developed parcel along Regatta Boulevard immediately west of the upland area; and two submerged parcels in San Francisco Bay made up of 46.1 and 15.6 acres, respectively. Only the Richmond Field Station and Regatta Boulevard parcels would be developed under the 2013 LRDP.

### **3.0 Existing Site Conditions**

#### **3.1 Site Conditions**

The 133-acre RBC site consists of upland areas developed with buildings that are used for academic teaching and research activities and spaces leased by private entities, a north-south oriented planting of eucalyptus trees in the central portion of the site, areas of coastal grasslands, a tidal salt marsh (known as the Western Stege Marsh), and a transition zone between the upland areas and marsh. Grasslands occur in a number of meadows on the RBC site. The Bay Trail is south of the site.

The University purchased the original Richmond Field Station landholdings in 1950. From 1870 to 1950, much of the property belonged to the California Cap Company, which manufactured explosives. The southeast portion of the uplands area was used for explosive materials manufacturing from the 1870s until 1948. Levels of contamination that exceed regulatory agency screening criteria have been found on the site. The primary contaminants of concern include metals, volatile organic compounds, and polychlorinated biphenyls (PCBs). The University is currently conducting an investigation and remediation of the site in accordance with a California Environmental Protection Agency, Department of Toxic Substances Control, Site Investigation and Remedial Action Order No. I/SE-RAO 06-07-004. On-site contamination and remediation is discussed in many reports completed under the Order, and addressed in an earlier CEQA document, all available on the web at [rfs-env.berkeley.edu](http://rfs-env.berkeley.edu).

#### **3.2 Existing On-Site Land Uses**

The two upland parcels are currently developed with approximately 80 one- and two-story buildings, roadways, parking lots, and landscaped areas. The uplands area, which has been the location of a variety of industrial enterprises dating back to the mid-19th century, also contains previously disturbed, currently undeveloped open space. The site is currently developed with 1,050,000 gsf of facilities, including more than 500,000 assignable square feet of research space; the Northern Regional Library Facility (NRLF), which serves as an archive for 7.7 million volumes of lesser-used books for the four northern UC campuses; one of the world's largest earthquake shaking tables; test facilities for advanced transportation research; and a regional laboratory for the US Environmental Protection Agency (US EPA). The University purchased the Regatta parcel (former Price Club site) in 2007, which added 23.4 acres to its Richmond properties. The Regatta parcel is developed with a warehouse building and surface parking. The warehouse building currently housing University archives and other uses

As of late 2012, the RBC site has a daily population of approximately 300 persons.



### **3.3 Transportation, Circulation, and Parking**

The existing main entrance to the RBC site is located at South 46th Street and the junction of Seaver Avenue and Robin Drive, accessed via the junction of Meade Street and Seaver Avenue. The site is accessible via interstate freeways I-80 and I-580. There are three interchanges on I-580 that provide access to the RBC site—Marina Bay Parkway interchange, Regatta Boulevard interchange, and Bayview Avenue interchange. The Regatta Boulevard and Bayview interchanges are both about 0.35 miles from the main entrance and provide the most direct access to and from the freeway. The Marina Bay Parkway and Regatta Boulevard interchanges provide the most direct access between the freeway and the Regatta property. Side-street access to the RBC is provided via overpasses at Bayview Avenue, Regatta Boulevard/Juliga Woods Street, Marina Bay Parkway/South 23rd Street, Marina Way, Harbor Way and others further west. Bay Trail access to the RBC is provided to bicyclists and pedestrians via underpasses/overpasses at Central Avenue, Buchanan Street, Gilman Street, University Avenue, the Berkeley bicycle and pedestrian bridge, and others further south. Bay Trail access to the RBC is also provided to bicyclists and pedestrians along the length of the entire Southern Gateway district in the City of Richmond.

The major vehicular circulation routes within the RBC site include east-west-running Robin Drive and Lark Drive, and north-south-running Egret Way. The primary vehicular entries into the RBC are:

- South 46th Street and the junction of Seaver Avenue and Robin Drive;
- South 46th Street at Building 194;
- Regatta Boulevard near South 34th Street; and
- Regatta Boulevard (multiple locations) for the western property.

Parking is accommodated in several surface lots. There are currently a total of 760 parking spaces on the site. UC Berkeley operates a shuttle bus that runs hourly between the UC Berkeley main campus and the Richmond Field Station.

### **3.4 Utilities and Infrastructure**

The RBC site is connected to the local utility companies for electrical power, natural gas, water, and telecommunications services and to the City of Richmond wastewater system. PG&E provides electricity to the site through multiple overhead 12-kilovolt electrical lines, with both aerial and underground power lines comprising the electrical service infrastructure on the site. PG&E also provides natural gas service to the site through multiple high-pressure gas mains, with underground gas lines serving the larger facilities on site. The East Bay Municipal Utility District

(EBMUD) provides potable and firefighting water via multiple high-pressure water mains, with underground potable and firefighting water lines distributed throughout the site. AT&T provides communications service to the site. Site sanitary sewer discharge flows to the City of Richmond publicly-owned wastewater treatment plant, located approximately three miles to the west on Canal Boulevard.

## **4.0 2013 Long Range Development Plan**

### **4.1 Main Features of the LRDP**

The proposed 2013 LRDP addresses sustainability, land use, access and circulation, utilities and infrastructure, and open space and landscaping, and provides a policy and design framework to guide the development of up to 5.4 million square feet of new research, education, and support space at the site. Design principles in the proposed LRDP feature preservation of the site's important natural open spaces including the Bay, marsh, and coastal grasslands. The site plan organizes development into distinctive groupings to promote a sense of community within the site, particularly during initial phases of campus growth.

Building heights across the RBC are expected to vary, with lower buildings at the Bay front edge and taller buildings behind them. Four and five story buildings are expected to be a common building module, with heights of 100 feet providing for a five story building with tall floor-to-floor heights that allow building systems to be easily altered as laboratory uses change over time. Neighborhoods within the campus may also feature iconic buildings that help establish a sense of place. An example would be Sather Tower (the Campanile) at UC Berkeley, which measures 303 feet to the top.

The proposed LRDP demonstrates commitment to sustainability through site design, building design, and infrastructure. As the RBC site is developed, the campus itself would be open to the community, providing community resources such as auditorium, exhibit, and event space for educational programs. The proposed LRDP describes and highlights the multiple connections to the site by road, bicycle, and pedestrian path, and incorporates a robust transportation demand management system to facilitate site access.

The RBC would be the centerpiece of the Southern Gateway district of the City of Richmond, envisioned as a revitalized hub of innovation, and the proposed RBC 2013 LRDP emphasizes connectivity beyond the site, and the importance of the campus as a catalyst for its vicinity.

## **4.2 Anticipated Research Programs**

In the near term, research at the RBC would focus on cleaner biofuel development processes; an advanced understanding of the genomics of plants, microbes, and microbial communities; production of nonpetroleum based essential materials and chemicals; advanced diagnostic equipment and techniques for bioscience; industrial process development; and cancer research. Existing research programs at the RBC site in sustainable transportation and earthquake engineering, among others, would continue; the site would also continue to house important collections of the University library and UC Berkeley museums. In addition, the bioscience programs at the RBC would maintain a close connection to the research conducted on the main campuses of LBNL and UC Berkeley. In the longer term, the RBC research would span the biosciences, energy and environmental sciences and technology, computing sciences, engineering and materials sciences, chemical sciences, climate sciences, and other disciplines. UC Berkeley expects that student research and teaching programs would also occur at the site, as part of the educational mission of the campus.

## **4.3 Campus Population Projections**

The University expects the campus population to increase incrementally over time as the RBC is developed over the approximately 40-year horizon of the 2013 LRDP, from approximately 300 persons in 2012 to approximately 10,000 persons in 2050. Phase 1 development is projected to add 1,000 people.

## **4.4 Building Space Projections**

Total building space on the RBC is projected to increase from approximately 1,050,000 gsf at the present time to 5,400,000 gsf at full implementation of the 2013 LRDP. Of the existing 1,050,000 gsf of building space, about 750,000 gsf would be demolished and about 300,000 gsf would be retained. The retained space includes the US EPA building (46,000 gsf) and NRLF (254,000 gsf). The new building space that would be added to the RBC site includes about 350,000 gsf for the expansion of the NRLF and about 4,750,000 gsf of research, education, and support facilities for occupancy by UC LBNL, UC Berkeley, and partner institutions. UC LBNL and UC Berkeley would explore ways to accommodate existing programs housed in space to be demolished at the site in new space at the RBC.

## **4.5 Sustainability**

The sustainability vision is for the RBC to be a showcase of sustainable design and operations to motivate and inspire staff, the community, the nation, and the world. The RBC would assert and grow the University's reputation as a hub of energy efficiency research and best practices. The

facilities would demonstrate building efficiency technology innovations developed by the University and its industry partners in a fully functional laboratory environment.

In August 2011, the University adopted the most recent update of the UC Sustainable Practices Policy<sup>4</sup>, which set goals to advance environmental practices in eight areas: green building, clean energy, transportation, climate protection, sustainable operations, waste reduction and recycling, environmentally preferable purchasing, and sustainable food service. All projects and operations at the RBC would meet or exceed the goals defined in this, or any successor, sustainability policy.

#### **4.5.1 Energy**

Physical development at the RBC would incorporate principles of energy efficiency in all capital projects, renovation projects, operations, and maintenance within budgetary constraints. In cases where the type of facility, such as a laboratory or data center, is not required to meet code requirements for energy consumption, the project would be required to meet specific energy and carbon performance metrics such as those defined by the “Labs21” (LBNL), “Smart Labs” (UC Irvine), or similar successor programs.

#### **4.5.2 Water**

In order to minimize the use of water to the extent practicable, the RBC would implement measures such as installing water-efficient landscaping and drip or other efficient irrigation systems, using water-efficient fixtures in new construction, and capturing rainwater and storm water for use in irrigation.

#### **4.5.3 Municipal Solid Waste**

The RBC would comply with the UC Sustainable Practices Policy for zero municipal solid waste by 2020.

#### **4.5.4 Materials**

Building materials would be selected to reduce embodied energy, maximize building lifespan, and be recyclable or reusable. Material use overall would be minimized, whether in buildings or in other site operations (e.g., paper), and recycled wherever practicable. Materials would be locally sourced and from renewable sources to the degree feasible, including re-use and recycling of materials from structures proposed for demolition.

---

<sup>4</sup> <http://www.universityofcalifornia.edu/sustainability/policy.html>

#### **4.5.5 Transportation**

In addition to providing shuttle access improvements, the RBC would implement a Transportation Demand Management program that would include alternate mode use incentives such as discounted transit passes, parking cash-out, Guaranteed Ride Home, and flexible car share programs.

#### **4.5.6 Landscape**

The RBC would support bio-diversity and habitat conservation through the use of native plant materials wherever possible. In addition, the RBC would utilize low-impact development design techniques and Bay-Friendly landscape design (see [www.stopwaste.org](http://www.stopwaste.org)) and make storm water management a site feature. As described below, natural open spaces would also be maintained.

### **4.6 Land Use Plan**

The proposed 2013 LRDP identifies two land use designations to inform the pattern of development at the RBC: (1) Research, Education, and Support, and (2) Natural Open Space. Definitions for each land use designation are provided below. **Figure 1, LRDP Land Use Plan**, shows proposed land uses under the 2013 LRDP. A possible layout of the site is shown in **Figure 2, LRDP Conceptual Layout**.

#### **4.6.1 Research, Education, and Support**

The Research, Education, and Support land use designation applies to land areas on the RBC site that are either currently developed with facilities that would remain in their present form or be expanded, and areas that would be developed with new facilities. This land use would include approximately 108 acres of the RBC site, which would be sufficient to meet projected program needs. The types of facilities that would be allowed in designated Research, Education and Support areas would include:

- Laboratory, classroom, office, and administration buildings for researchers, faculty, postdocs, students, and non-University public and private entities.
- Product and process development space for private sector startups, small businesses, and industry counterparts that are synergistic with UC Berkeley and LBNL research areas.
- Support infrastructure and facilities for operations, transportation, utilities, renewable power generation, firefighting, security, safety, hazardous materials management, and corporation yard uses including vehicle and materials shops and storage. Support facilities for specialized research programs such as plant and animal research facilities, greenhouses, and clinical spaces.
- Community outreach and education uses including exhibit, lecture, and event spaces as well as conference facilities and meeting rooms focused on public education.



- Amenities such as dining, short-term accommodation facilities (for visiting researchers), retail, and recreation facilities.
- Transportation-related facilities including parking lots and structures; bus and shuttle stops; and roadways/circulation pathways. Parking structures might house transportation administration offices, bicycle support facilities, and utility structures such as distributed central plants.
- Developed open spaces that would be usable by the campus population and visitors, ranging from courtyards, terraces, and quad-like spaces, to walkways, tree groves and recreational fields. Existing landscaping, including non-native eucalyptus trees in these areas, may be removed and replaced. Open spaces in this zone might be paved or landscaped, with or without seating or other site furnishings. They would range in scale from larger areas for outdoor gatherings to smaller spaces for small group interaction or individual reflection. Storm water would be managed within these zones in swales and other landscaping. Small structures such as pavilions or overlook platforms might be located in these areas.
- Transition zones would buffer site buildings from the Natural Open Space areas, allowing for maintenance access and minimizing the transference of non-native species or noise or light intrusions. Permanent structures within 25 feet of the Natural Open Space areas would not be allowed.
- Throughout the RBC, paving would be pervious wherever practicable, stormwater would be carefully managed to protect natural areas, and any planting would consist of native or non-invasive species.

Childcare would not be considered an appropriate use in the Research, Education and Support land use designation; if childcare is proposed for the RBC the LRDP would be amended to identify or create an appropriate zone.

#### **4.6.2 *Natural Open Space***

The RBC site includes natural areas such as the San Francisco Bay, Stege Marsh, and coastal grasslands. Human engagement and disruption to these spaces would be limited, with the intent to protect, restore, and maintain these resources in their natural condition. Activities would be limited to access for interpretation, education, maintenance, and research. Improvements in this zone would be limited to minor access roads for maintenance vehicles and limited boardwalks or pathways, consistent with education and conservation goals. Approximately 25 acres within the upland portion of the RBC site and 62 acres within the Bay portion of the site for a total of approximately 87 acres would be designated Natural Open Space to encompass those natural areas that the University plans to protect from development and maintain in their natural condition.

## **4.7 Circulation and Parking**

### **4.7.1 Vehicle Access and Circulation**

Vehicle access would continue to be provided from the existing exits from I-580. The existing ingress and egress points at the site would likely remain as primary or service access points. New points of ingress and egress would be added from the east off of South 46th Street, from the north off of Meade Street, and from the west at multiple locations off of Regatta Boulevard. A calm, mixed use street would potentially extend the existing Lark Drive to connect with Regatta Boulevard east and west. Roadways within the RBC would provide calm, mixed-use streets for internal circulation, direct access to facilities, pedestrians, bicycles, and utilities pathways. Regatta Boulevard would be rerouted to the west to allow the eastern and western portions of the RBC site to be unified. The existing north-south alignment of Egret Way would link the main entrance to the Phase 1 buildings. Phase 1 would utilize all existing roads and would not require any re-routing or new access.

### **4.7.2 Bicycle Circulation**

Bicycle access to and from the RBC would be provided via overpasses at Bayview Avenue, Regatta Boulevard/Juliga Woods Street, Marina Bay Parkway/South 23rd Street, Marina Way, Harbor Way and others further west. Extended Lark Drive would provide bicycle connectivity to downtown Richmond and neighborhoods west of the RBC. Additional bicycle access to the RBC on the Bay Trail would be provided via underpasses/overpasses at Central Avenue, Buchanan Street, Gilman Street, University Avenue, the Berkeley bicycle and pedestrian bridge, and others further south. Bicycle lanes would be provided on any new roads within the RBC site. A bike sharing system may also be implemented both for circulation within the RBC site and for travel to retail and other points nearby during the day.

### **4.7.3 Parking**

Approximately 690 of the existing 760 vehicle parking spaces located in surface parking lots would be removed and, as needed over time, replaced in strategic locations. Surface parking would continue to be provided as a short term measure to serve the first few facilities. Later, parking structures would be constructed to provide for the majority of the approximately 6,000 vehicle parking spaces projected to be needed in the long term. Parking structures would be located at the periphery to support a more pedestrian-friendly, vehicle-free interior district with similarities to a traditional higher education campus. Small surface parking lots would be located adjacent to all new facilities for disabled access, shipping/receiving, and short-term visitor

parking. All parking areas would be provided with an appropriate system designed to treat stormwater runoff from parking areas in conformance with the Clean Water Act.

Bicycle parking would be provided at a rate of at least 20 percent of the RBC population at any given time period, in accordance with Leadership in Energy and Environmental Design (LEED) requirements; this would amount to approximately 2,000 spaces at full LRDP implementation. New buildings would have indoor secure bicycle parking, showers and clothes lockers, as well as outdoor bicycle racks, some of which may be secure and/or covered.

#### **4.7.4 Transit**

Two shuttle lines are proposed for the RBC. The LBNL-UC Berkeley-RBC Shuttle would provide a no-transfer 20-minute ride from LBNL to the RBC with a single stop at the main UC Berkeley campus en route. The Bay Area Rapid Transit (BART)-RBC Shuttle would run continuously between the El Cerrito Plaza BART station and the RBC, providing a nonstop nine-minute ride from BART to the RBC. The El Cerrito Plaza BART station would also serve as a connection point to the Alameda-Contra Costa Transit District (AC Transit) system.

### **5.0 Phase 1 Development**

The University proposes to demolish 25 existing structures totaling approximately 107,000 gsf and consolidate existing LBNL bioscience programs currently in leased space into three new buildings totaling up to 600,000 gsf with an occupancy of approximately 1,000 adp. Building demolition and site preparation work would occur on a 16-acre portion of the RBC site. The facilities that would be developed under Phase 1 are shown in **Figure 3, Phase 1 Site Plan**.

#### **5.1 Utilities Rerouting and Building Demolition**

The Phase 1 development would first disconnect all utility services from, and demolish, 25 existing structures totaling approximately 107,000 gsf. This work would include all existing buildings south of Lark Drive, with the exception of Building 201, the US EPA laboratory. Storm and sanitary sewer drains required to continue flowing through the Phase 1 area would be rerouted to the eastern and western perimeters of the Phase 1 area in accordance with the utility corridor plan in the LRDP.

#### **5.2 Tree Removal and Landscaping**

Approximately 170 immature and mature pine and eucalyptus trees would be removed as part of the Phase 1 site preparation work. The remainder of the existing site trees would not be disturbed during Phase 1 development. Approximately 75 immature drought-resistant trees would be planted as a feature of the Phase 1 development.

### **5.3 Earthwork**

The southern portion of the Phase 1 is in an area which is potentially subject to water inundation due to projected sea level rise, a tsunami, or a 100-year flood. In order to protect the Phase 1 facilities from this potential water inundation, the base elevation of the Phase 1 area would be increased from an average of approximately 10 feet above sea level (asl) to approximately 15 feet asl and the base elevation of the facilities would be constructed at 15 feet asl. This would require adding approximately 70,000 cubic yards of soil at varying depths over an area of approximately 12 acres.

### **5.4 Utilities Infrastructure**

All-new utility services would be required to serve the Phase 1 area facilities. The points of connection to the utilities to serve the Phase 1 area facilities would be near the main entrance of the RBC at Meade and 46th Streets. Secondary points of connection would be located at Regatta Boulevard and 32nd Street. Utilities would be connected to the new facilities, and sized adequately to serve up to 800,000 gsf, providing capacity for some additional future development in the area.

### **5.5 New Construction**

Three new research buildings totaling up to 600,000 gsf would be constructed to house a mix of laboratory, office, and interaction space. The facility to be constructed at the southernmost end of the RBC developable area is referred to hereinafter as Building 2 ("Energy building" on Figure 3). The facility to be constructed to the north of Building 2 is referred to hereinafter as Building 1 ("BIF building" on Figure 3). The facility to be constructed to the east of Building 2 is referred to hereinafter as Building 3 ("Health building" on Figure 3). Building 1 would house JGI, ABPDU, and KBase, an imaging center, and a conference facility. Building 2 would house LBNL's JBEI and closely-related programs as well as a dining facility. Building 3 would house UC LBNL biosciences projects and activities, closely related projects and activities, and synergistic research institutions. Building 1 would likely be a three-story facility totaling 110,000 to 150,000 gsf. Building 2 would likely be a two-story facility totaling 110,000 to 150,000 gsf. Building 3 would likely be a three- to four-story facility totaling up to 300,000 gsf. Two new surface parking lots would be constructed on approximately 7 acres of land to accommodate approximately 870 vehicles associated with the new employees. These surface parking lots would become the locations for new facilities and a parking structure over time.

## **5.6 Sustainability**

The Phase 1 buildings would incorporate green building strategies with goals of design, construction, and commissioning to achieve a minimum LEED Silver level for non-energy measures rating from the US Green Building Council. As appropriate, each building would meet specialized energy performance metrics and Environmental Performance Criteria credits developed for laboratories and data centers by the Labs21 Program.

The buildings would be oriented with their long facades facing south and north and short facades facing east and west in order to minimize solar gain in summer, maximize passive solar heating in the winter, and maximize natural light in the interior spaces. The buildings would also be positioned to provide wind protection in winter, encourage natural ventilation in summer, and benefit from western sun shading. The exterior material of the building would be compatible with the surrounding environment and maritime elements. The exterior cladding is anticipated to include a mix of concrete, metal, and glass.

## **5.7 Stormwater**

Because the proposed Phase 1 site would be “downstream” of and at a lower elevation than the balance of the RBC, the Phase 1 area drainage would be sized for ultimate buildout conditions to accommodate the rest of the site’s stormwater runoff through the Phase 1 area. Phase 1 development would incorporate State Water Resources Control Board post-construction standards for storm water runoff in addition to other local and regional requirements. Runoff treatment facilities would be installed and other permanent best management practices (BMPs) would be implemented commensurate with regulatory requirements and sustainability policies established in the RBC LRDP. For Phase 1, this would primarily consist of bioswales and retention ponds between the building and parking lot stormwater drainage systems and the marsh area.

## **5.8 Construction Schedule**

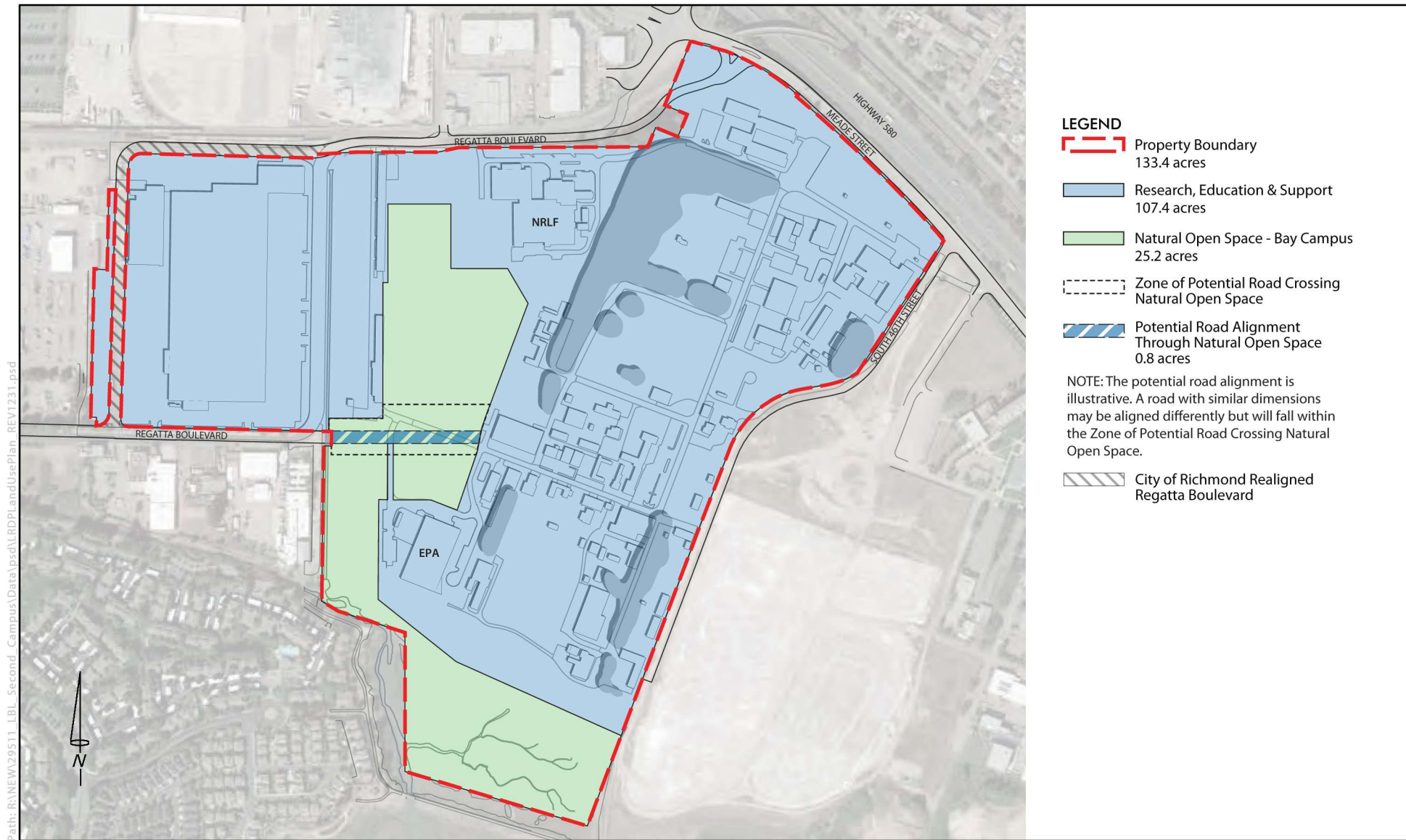
Phase 1 construction is anticipated to occur over a four-year period beginning in 2014 and continuing through 2018.

## **6.0 Alternatives**

The LRDP EIR will include an examination of alternatives to the proposed 2013 LRDP, including the “no project” alternative required by CEQA. While the final list of alternatives will be developed in conjunction with the environmental analyses, alternatives likely to be considered for inclusion in the EIR are:



- **Reduced Growth Program:** Under this alternative, the RBC would be developed at the Richmond site, but with a reduction in the total building square footage and employee population.
- **Alternate Development Program:** Under this alternative, the RBC would be developed at the Richmond site as proposed, but it would provide for the development of a large-scale scientific facility or machine (referred to hereinafter as a "Future Scientific Facility.") with no net increase in the maximum 5.4 million gross square feet of development proposed..
- **Off-site Alternative:** Under this alternative, the LRDP would be implemented at another site, such as Alameda Point in the City of Alameda. The LRDP's building square footage, projected uses, and employee population would be the same.
- **No Project:** Under this alternative, the LRDP would not be implemented, and the Richmond Field Station and other components of the Richmond site would continue their current operations. UC LBNL would continue to lease off-site space for ongoing bioscience research and related programs.



## LRDP Land Use Plan

Richmond, California



## ***LRDP Conceptual Layout***

Richmond, California





## Phase 1 Site Plan

Richmond, California

## Potential Effects

The following is a preliminary assessment of potential environmental issues that may be analyzed in the LRDP EIR. This assessment will be used to help determine the scope of the EIR.<sup>5</sup> The EIR will consider all areas below. Topic areas that are expected to be impacted by the proposed project will be fully analyzed. Topic areas not expected to be impacted will be addressed briefly or in appropriate depth.

	Will be Analyzed in EIR	No Additional Analysis Required
<b>1. AESTHETICS</b> -- Would the project:		
a) Have a substantial adverse effect on a scenic vista?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public views of the RBC site are limited from public viewing points north of the site due to tree cover and distance imposed by I-580; private property owners in the hills above the site have broad views that include the Richmond properties, the bay and San Francisco beyond. The chief public viewpoint of the site is from the Bay Trail. Although the visual conditions of the project site and surroundings are not expected to present major aesthetic issues, the EIR will include an evaluation of the project location and massing to determine if campus development under the LRDP, including Phase 1, will have substantial adverse effects on scenic vistas.		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site does not contain scenic resources, nor is it on or near a state scenic highway. Regional access to the site is by I-80 and I-580. Portions of I-580 are designated as scenic, but these occur from its junction with State Route 24 to the San Leandro city limit, and a portion in eastern Alameda County away from the project area. Therefore, no impact would occur to scenic resources present within a state scenic highway and further analysis in the EIR is not required.		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site to date has retained its industrial character. The site and vicinity, however, is designated a "Change Area" in the City of Richmond General Plan 2030. The existing physical and visual configuration of buildings would be gradually replaced by a mixture of buildings and facilities with greater massing and density than those currently on site. The EIR will analyze the potential for campus development under the proposed LRDP, including Phase 1, to degrade the visual character and quality of the site and its surroundings.		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
With the inclusion of new buildings and facilities, development of the RBC, including Phase 1, could create new sources of light and glare visible from off-site viewpoints. The EIR will analyze the potential impacts of these new light and glare sources.		

<sup>5</sup> Brief explanations are provided in shaded boxes. These explanations represent a best estimate based on the current preliminary understanding of the proposed LRDP, including Phase 1, and its likely effects.



	Will be Analyzed in EIR	No Additional Analysis Required
<b>2. AGRICULTURE AND FOREST RESOURCES</b> -- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon management methodology provided in Forest Protocols. Would the project:		
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
No active agriculturally-used lands are on the RBC site; therefore, further analysis in the EIR is not required.		
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is not zoned for agricultural use and is not subject to a Williamson Act contract; therefore, further analysis in the EIR is not required.		
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
No agricultural lands are adjacent or near the RBC site. Therefore, the development of the RBC site into a research campus will not result in the conversion of any farmland to a non-agricultural use. Further analysis in the EIR is not required.		
d) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The site is not zoned for timber production or forest land; the proposed RBC does not conflict with existing zoning and would not cause rezoning related to forest land or timberland. Further analysis in the EIR is not required.		
e) Result in a loss of forest land or conversion of forest land to non-forest uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site contains eucalyptus trees planted by previous owners to reduce impacts from explosives once manufactured at the site; these trees are not forest land. Further analysis in the EIR is not required.		

	Will be Analyzed in EIR	No Additional Analysis Required
<b>3. AIR QUALITY</b> -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:		
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>The US EPA and the California EPA have established ambient air quality standards for certain pollutants referred to as criteria pollutants. The federal standards are known as the National Ambient Air Quality Standards and the state standards are known as the California Ambient Air Quality Standards. For each standard, air basins are classified as attainment, unclassified, or nonattainment. The project site is in the San Francisco Bay Area Air Basin (SFBAAB) that is currently designated as a nonattainment area for state and national ozone standards, state and national fine particulate matter (PM<sub>2.5</sub>), and state inhalable particulate matter (PM<sub>10</sub>). For all other standards, the SFBAAB is designated as attainment or unclassified.</p> <p>LRDP-related increases in staff, laboratory space, equipment, and construction activities, including site remediation conducted in accordance with agency-approved work plans, would likely add incrementally to regional ambient air pollutant emissions, including short- and long-term emissions of criteria air pollutants from mobile and stationary sources, including PM<sub>10</sub> and ozone. The impact of these air emissions will be evaluated in the EIR. Standard emission control and reduction measures, such as dust control for excavation, use of alternative fuel vehicles on-site, shuttle service to public transportation, filtration on exhaust systems, etc., will be identified in the EIR where appropriate.</p>		
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>The EIR will examine the potential for mobile, area, and stationary source emissions from campus development under the LRDP, including Phase 1, to violate state and federal air quality standards or contribute to existing air quality violations. The potential for mobile source, construction and operational emissions from the LRDP implementation to influence air quality will be examined. The analysis will include examination of criteria pollutants that could result from project implementation.</p>		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>The SFBAAB is designated as a non-attainment area for ozone and PM<sub>10</sub> standards. The EIR will examine the total emissions through 2050 that would result from campus development under the LRDP, including Phase 1, and determine whether increases in nonattainment criteria pollutants would be cumulatively considerable.</p>		
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>The EIR will evaluate whether LRDP-related remediation, construction and development activities, including Phase 1, would expose sensitive receptors, including nearby schools, to substantial pollutant concentrations.</p>		
e) Create objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>Ongoing activities from the proposed project are not expected to create nuisance or objectionable odors affecting substantial numbers of people, on or off the site. The RBC would house research and office facilities that would not contain large scale manufacturing or industry that might be a source of objectionable odors affecting substantial numbers of people. Actions at the RBC that might create objectionable odors include asphalt-laying and other related construction activities. Because construction of the RBC is expected to occur periodically over several decades, the EIR will analyze potential impacts related to construction under the proposed LRDP, including Phase 1, and recommend mitigation measures where applicable.</p>		

	Will be Analyzed in EIR	No Additional Analysis Required
f) Expose people to substantial levels of toxic air contaminants (TACs), such that the exposure could cause an incremental human cancer risk greater than 10 in one million or exceed a hazard index of one for the maximally exposed individual?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Development of the RBC would add research facilities, entail site remediation conducted in accordance with agency-approved work plans, and expand existing campus uses that are potential sources of low levels of toxic air contaminants and airborne radionuclides. The EIR will include estimates of emissions from full implementation of the RBC, including Phase 1, and will incorporate the results of a human health risk analysis conducted to determine if the project would expose people on or off the site to levels of toxic air contaminants that could cause a health risk.		
<b>4. BIOLOGICAL RESOURCES</b> -- Would the project:		
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site contains sensitive habitats, including seasonal wetlands, a native cordgrass marsh, coastal terrace prairie grassland, habitat for the federally listed endangered California clapper rail, as well as tidal mudflats and eelgrass beds. The EIR analysis will include potential project impacts to candidate, sensitive, or special status plant and animal species present in these habitats from the development of the campus under the LRDP, including Phase 1. In addition, potential impacts to primary habitat and transitory and migratory habitats will be addressed.		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
As discussed under item a) above, the RBC site contains sensitive habitats. The EIR will examine possible impacts from campus development under the proposed LRDP, including Phase 1, to riparian habitat and other sensitive natural communities.		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Seasonal wetlands and marsh habitat are present on the RBC site. The EIR will examine possible impacts to wetlands on the site as a result of development of the RBC including Phase 1, in accordance with federal requirements and statutes.		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will evaluate the potential impacts of campus development under the proposed LRDP, including Phase 1, to migratory species and areas on the site that are potential wildlife corridors or may include native wildlife nursery sites.		
e) Conflict with any local applicable policies protecting biological resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will evaluate the consistency of the LRDP with federal and state plans, policies, laws and regulations, such as the Migratory Bird Treaty Act, that are relevant to potentially occurring biological resources. Although local ordinances would not apply to the project, the EIR will include a determination of consistency with local policies concerning the protection and conservation of biological resources, including the City of Richmond General Plan 2030.		

	Will be Analyzed in EIR	No Additional Analysis Required
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is not known to be subject to or designated for any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. Further analysis in the EIR is not required.		
<b>5. CULTURAL RESOURCES</b> -- Would the project:		
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Campus development under the proposed LRDP would result in the demolition of several existing buildings at the RBC site. Some of these buildings are 45 years old or greater and are associated with current and previous uses at the site. A survey is being conducted to assist in determining which structures that would be demolished for Phase 1 development may be historical resources as defined in CEQA Section 15064.5 and which may be eligible for the National Register of Historic Places pursuant to the National Historic Preservation Act. The results of this survey and other investigations will be included in the EIR analysis and will be used to evaluate whether implementation of the LRDP, including Phase 1, could cause a substantial adverse change in the significance of a historic resource.		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There are no known archaeological resources at the RBC site. No archaeological artifacts have been discovered during past excavations and grading on the RBC site, and no archaeological sites have been recorded at the RBC site. However, given the size of the LRDP area and the site disturbance necessary for excavation and construction, and given the inclusion of the Regatta property in the area of the LRDP, the potential for discovery of unexpected archaeological resources during construction will be addressed and standard best practices and mitigations proposed in the EIR.		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There are no known unique paleontological resources or unique geologic features at the RBC, and none are anticipated. However, given the size of the LRDP area and the site disturbance necessary for excavation and construction, the potential for discovery of unanticipated paleontological resources during construction will be addressed and standard best practices and mitigations proposed in the EIR.		
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There is no known evidence of prehistoric habitation of the RBC site, or any indication that the site has been used for burials in the recent or distant past. However, given the size of the LRDP area and the site disturbance necessary for excavation and construction, the potential for discovery of human remains during construction will be addressed and standard best practices and mitigations proposed in the EIR.		

	Will be Analyzed in EIR	No Additional Analysis Required
<b>6. GEOLOGY AND SOILS</b> -- Would the project:		
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A portion of the Hayward Fault Zone occurs within the City of Richmond, more than two miles northeast of the site. However, no fault is present on the RBC site and there is no potential for fault rupture. Further analysis in the EIR is not required.		
ii) Strong seismic ground shaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will analyze the stability of the underlying geologic materials in a strong earthquake on the Hayward Fault and other Bay Area faults, and the potential impacts of strong seismic ground shaking to campus development under the proposed LRDP, including Phase 1.		
iii) Seismic-related ground failure, including liquefaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The site has not been officially assessed by the State of California for its liquefaction potential but based upon the soil type, the relatively young age of the soil, and the shallow depth to groundwater, the sandy site areas could potentially be susceptible to liquefaction during an earthquake. The areas dominated by clay are less susceptible to liquefaction. The EIR will address the stability of the underlying geologic materials in a strong earthquake, including ability to resist lateral forces associated with a maximum credible magnitude earthquake near the project, and the potential for subsidence, differential settlement, and liquefaction impacts to campus development under the proposed LRDP, including Phase 1.		
iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is relatively flat, at the distal end of an alluvial plain. There is no potential for landslide risk at the site. Further analysis in the EIR is not required.		
b) Result in substantial soil erosion or the loss of topsoil?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site is relatively flat and not at risk for substantial soil erosion. All of the properties are previously disturbed and not a source of quality topsoil. Standard construction regulation and best practices, including implementation of National Pollutant Discharge Elimination System permit requirements, would mitigate any risk of substantial soil erosion or loss of topsoil. However, given the size of the LRDP area and the site disturbance necessary for raising the ground level, excavation and construction, standard best practices and mitigations will be discussed in the EIR to reduce risk of soil erosion.		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will analyze the stability of the underlying geologic materials in a strong earthquake, including ability to resist lateral forces associated with a large magnitude earthquake near the project, the potential for subsidence, differential settlement, and liquefaction.		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will analyze the potential effects of the soil types of the site to development of the RBC under the proposed LRDP, including Phase 1.		



	Will be Analyzed in EIR	No Additional Analysis Required
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The Richmond properties are served by the City of Richmond wastewater treatment system, and RBC is not proposed to be served by septic systems or alternate waste water disposal systems; therefore, this topic will not be further analyzed in the EIR.		
<b>7. GREENHOUSE GAS EMISSIONS</b> -- Would the project:		
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will estimate the level of greenhouse gas (GHG) emissions anticipated with the development of the campus under the proposed LRDP, including Phase 1, to determine whether these emissions would result in a significant impact requiring mitigation.		
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Assembly Bill 32, the California Global Warming Solutions Act, requires a statewide GHG emission cap for 2020 based on 1990 emission levels. Senate Bill 375 requires local land use and transportation planning to achieve the state's GHG reduction goals. The Bay Area Air Quality Management District, charged with regulating GHGs in the region, has established CEQA air quality standards that are currently under legal review. The EIR will evaluate the development of the RBC in the context of state, regional and local laws and UC Sustainable Practices Policy requirements concerning the reduction of GHGs.		
<b>8. HAZARDS AND HAZARDOUS MATERIALS</b> -- Would the project:		
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site includes some areas of contaminated soil and groundwater. The University is in the process of investigating and remediating site contamination in accordance with a California Department of Toxic Substances Control (DTSC) Order. These actions are ongoing, and further site development would in some instances require site remediation conducted in accordance with agency-approved work plans. Current operations at the RBC site include the use of solvents, adhesives, cements, paints, cleaning agents, degreasers, and vehicle fuels. Arsenic, copper, lead, mercury and polychlorinated biphenyls have been detected in the soil at levels exceeding hazardous waste criteria. Development of the RBC would spur development of additional facilities that would use, store, and require the transportation of additional hazardous materials and disposal of hazardous waste (including mixed waste, combined waste, and radioactive waste). The EIR will characterize anticipated new and expanded on-site hazardous materials remediation use, transport and disposal, will identify projected increases in these activities that could occur under the LRDP program, including Phase 1, and will evaluate potential impacts associated with these increased activities.		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will characterize hazardous waste, mixed waste, combined waste, and radioactive waste handling and hazardous materials use in research, operations, maintenance, and construction, and their transport, handling and disposal. It will identify projected increases in these activities that could occur under development of the RBC, including Phase 1, and will evaluate associated potential impacts, including potential risks from reasonably foreseeable accidents or upset conditions.		

	Will be Analyzed in EIR	No Additional Analysis Required
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site is not within one-quarter mile of an existing or proposed school per CEQA Guideline 15186. While the RBC would handle certain hazardous materials, these materials and their handling protocols are subject to extensive regulations, procedures and oversight. Although the proposed RBC (including Phase 1) and remediation conducted in accordance with agency-approved work plans as the site is developed is not anticipated to be a major new source of on-site hazardous materials or handling, the EIR will include an analysis of anticipated materials and the potential impacts of their use.		
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site is listed on the current California EPA Hazardous Waste and Substances Sites List, also known as the "Cortese list." This listing is due to prior site activities that resulted in soil contamination at specific site locations. As discussed above in Sec. 8.a, the DTSC is directing remediation efforts to address the effects of this past contamination. Information regarding the background, remediation activities, and current status may be found at: <a href="http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=07730003">http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=07730003</a> . These remediation activities, their status, and current and future remediation efforts will be discussed in the EIR, as well as any additional measures if necessary due to development of the RBC, including Phase 1.		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is neither within an airport land use plan nor within two miles of a public airport; therefore, further analysis in the EIR is not required.		
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is not near a currently operating or planned private airstrip; therefore, further analysis in the EIR is not required.		
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Emergency response plans are maintained at the Federal, State and local level for all types of disasters, including human-made and natural. Emergency response plans for existing and new facilities would be the responsibility of the operation and management at the RBC; however, the EIR will analyze development of the RBC, including Phase 1, in consultation with all applicable emergency response providers and identify if any impacts to their adopted response plans would occur.		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC is not near wildlands and the risk of wildland fires is low. There are numerous open space and wetland areas at the site, but these are not considered moderate or high-risk for wildland fires due to their limited and non-contiguous setting away from large open or natural areas that are susceptible to wildland fires. Further analysis in the EIR is not required.		

	Will be Analyzed in EIR	No Additional Analysis Required
<b>9. HYDROLOGY AND WATER QUALITY -- Would the project:</b>		
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Development of the RBC could increase the impermeable surface area, which could produce additional volume and pollutant loading of urban runoff. Increased water use from the RBC could cause increases in wastewater discharges that could exceed waste discharge requirements for water quality or quantity. The EIR will evaluate impacts to water quality from runoff and characterize current waste discharge volumes of the site and wastewater treatment capacity at the City of Richmond's wastewater treatment plant, and evaluate whether development of the RBC, including Phase 1, would cause a violation of applicable standards or waste discharge requirements.		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Potable water at the site and in Richmond is supplied by EBMUD, and not from groundwater wells; groundwater in the area does not support existing or planned land uses. Groundwater contamination has been detected on portions of the site. Shallow groundwater is expected to be encountered during construction of the RBC. While additional site development may somewhat reduce percolation of stormwater into the shallow groundwater due to the addition of impervious surface area, the project would not substantially deplete supplies or interfere with groundwater recharge. However, given the size of the LRDP area and the scale of development anticipated at the horizon year, standard best practices and mitigations will be discussed in the EIR to address groundwater recharge.		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The project site includes a channelized storm drain that flows into the bay and directly affects the existing drainage pattern of the site. Development of the RBC will increase the impervious area of the site and could increase the rate of site runoff. The EIR will include analysis of the proposed site and development pattern of the project to ascertain how the siting of buildings and facilities could further affect the drainage patterns of the site, and the potential impacts pertaining to drainage, erosion, and on- and off-site siltation from campus development under the proposed LRDP, including Phase 1.		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There are no natural streams or rivers on the site and the site has existing stormwater and drainage systems, including the channelized storm drain, that address flooding concerns. Development of the RBC, including Phase 1, would increase the area of impervious surface that could increase the volume of surface water; systems would, however, be sized and improvements planned to reduce the risk of flooding or increase in levels of urban contaminants in stormwater runoff, as part of the 2013 LRDP improvements. However, given the size of the LRDP area and the scale of development anticipated at the horizon year, standard best practices and mitigations will be discussed in the EIR to address drainage and risks of flooding.		
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Will be Analyzed in EIR	No Additional Analysis Required
In the short term, the project will likely increase the amount of impervious surface at the site that could increase the volume of surface water runoff. The EIR will evaluate if the existing and planned drainage system could accommodate increased runoff from campus development under the proposed LRDP, including Phase 1; the analysis will include potential impacts associated with stormwater runoff.		
f) Otherwise substantially degrade water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Expansion of research operations associated with development of the RBC, including Phase 1, could result in activities that could impact water quality. Improvements would, however, be planned to reduce the risk of water quality degradation, including bioswales and other stormwater filtration and retention measures. However, given the size of the LRDP area and the scale of development anticipated at the horizon year, standard best practices and mitigations will be discussed in the EIR to address water quality.		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
While the RBC could include temporary lodging, it would not include temporary or permanent housing within the 100-year flood hazard area; therefore, this topic will not be discussed further in the EIR.		
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A portion of the site is within a Federal Emergency Management Agency VE Zone. This designation denotes coastal areas with a one percent or greater chance of flooding and an additional hazard associated with storm waves; these areas have a 26 percent chance of flooding over a 30-year period. Given the size of the LRDP area and the scale of development anticipated at the horizon year, the EIR will consider existing flood control structures on the site and the adequacy of these structures and the possible need for additional flood control components.		
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC site is not downstream of or near a levee or dam. As described in response to item d) above, systems would be sized and improvements planned to reduce the risk of flooding due to stormwater flows and risk from other sources of flooding (see item h) above). A flood control channel on the site addresses current water flows, including those related to stormwater. Given the size of the LRDP area and the scale of development anticipated at the horizon year, standard best practices and mitigations will be discussed in the EIR to address drainage and risks of flooding due to campus development under the proposed LRDP, including Phase 1.		
j) Inundation by seiche, tsunami, or mudflow?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Portions of the RBC site are within a mapped tsunami inundation zone; however, these locations are not proposed for development. According to the City of Richmond General Plan 2030 EIR, portions of the site along the Bay could be subject to projected sea level rise as a result of global warming. The EIR will examine potential impacts due to rising sea levels and discuss any mitigations, if necessary, to address sea level rise.		
<b>10. LAND USE AND PLANNING -- Would the project:</b>		
a) Physically divide an established community?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The RBC would be located on the existing Richmond properties. The site is currently somewhat disconnected from the Richmond community, by the barriers of I-580 freeway and railroad lines north and east of the properties. The RBC LRDP would not expand the campus site into the surrounding community and would not physically divide any established communities; the project may instead improve linkages with the community. The EIR will include a discussion of adjacent and nearby land uses and land use patterns and applicable land use and zoning ordinances and policies.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>The RBC would be located on land owned by the University of California which has land use jurisdiction over the site, as prescribed by Article IX Section 9 of the California Constitution. As such, the project is not subject to local land use planning jurisdiction, but rather, the Long Range Development Plan acts as a general plan for the site. The EIR will include as context a discussion of local land use ordinances and policies, including the recently adopted City of Richmond General Plan 2030, as the University seeks to be a good neighbor.</p> <p>The parcels of the RBC site closest to San Francisco Bay are within the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC) and would be subject to the policies and development guidelines of the San Francisco Bay Plan. The jurisdictional boundary of BCDC was amended in October 2011 to reflect climate change issues and projected sea level rise. Development of the RBC, including Phase 1, would include infrastructure components within the BCDC's jurisdictional area; therefore, the EIR will include a discussion of the LRDP's conformance with BCDC development policies and guidelines as directed by the San Francisco Bay Plan.</p>		
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>The RBC site is not located within any adopted federal, state or local habitat conservation plan or natural community conservation plan. Therefore, no additional analysis in the EIR is required.</p>		
<b>11. MINERAL RESOURCES</b> -- Would the project:		
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Because the site is in an area where there are no significant mineral or aggregate deposits and there are no known mineral resources that would present major issues for development of the RBC, no further discussion is required in the EIR.</p>		
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>The RBC site does not include any locally-important mineral resource recovery sites as delineated on a local general plan, specific plan or land use plan, so no further discussion is required in the EIR.</p>		
<b>12. NOISE</b> -- Would the project result in:		
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>The RBC would cause increases in traffic volumes, mechanical equipment associated with new building and related structures, and increases in daily site populations that could cause potential long-term increases in noise levels. Operation of construction equipment could cause substantial short-term noise increases that might include short-term, temporary exceedances of noise ordinances in nearby areas. The EIR will analyze the anticipated magnitude of these noise increases, and will evaluate whether the increased noise levels associated with campus development under the proposed LRDP, including Phase 1, would exceed applicable ambient noise standards.</p>		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Will be Analyzed in EIR	No Additional Analysis Required
Operational activities associated with the RBC are not likely to result in activities that generate excessive groundborne vibration or noise levels. Construction of buildings or other support structures under the LRDP, including Phase 1, might require the use of pile drivers or other heavy construction machinery that could generate excessive groundborne vibration or groundborne noise levels noticeable to both on- and off-site receptors. The EIR will address vibration and groundborne noise levels from anticipated construction activities, and discuss potential impacts and mitigation measures.		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Activities at the RBC, including Phase 1, would cause increases of on-site population and general operations that could produce permanent ambient noise level increases. The EIR will evaluate whether any increased permanent noise levels would exceed applicable ambient noise standards.		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Operation of construction or other equipment could cause substantial temporary or short-term noise increases. The EIR will use current noise modeling methods to predict their magnitude, and will evaluate whether the increased temporary noise levels associated with implementation of the RBC would exceed applicable noise standards.		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is not in a current or proposed airport land use plan or Airport Influence Area, as defined by Assembly Bill 2776 and is not within two miles of a public airport. Therefore, no further discussion is required in the EIR.		
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site is not near a current or planned private airstrip. Therefore, no further discussion is required in the EIR.		
<b>13. POPULATION AND HOUSING -- Would the project:</b>		
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No housing is proposed at the RBC. Employment growth and housing demand attributable to the RBC would occur over several decades and, based on current commute patterns of existing employees at the site and LBNL and UC Berkeley employees, demand would be dispersed over a broad area of the East Bay and the greater Bay Area. Further, a portion of employees at the new RBC would be existing LBNL or UC Berkeley employees whose work is moved to a new location, and those employees would not be new employees contributing to population growth. The EIR will analyze the anticipated increase in jobs in relation to the population and housing policies and projections for the City of Richmond, as well as neighboring jurisdictions, to determine whether the level of impact that would occur with development of the RBC, including Phase 1.		
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site does not include housing or any related residential uses, and no housing would be displaced, so further discussion is not required in the EIR.		

	Will be Analyzed in EIR	No Additional Analysis Required
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The RBC site does not include housing or any related residential uses, and no housing would be displaced, so further discussion is not required in the EIR.		
<b>14. PUBLIC SERVICES --</b>		
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:		
Fire protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Development of the RBC, including the permanent increase in on-site personnel, would increase the potential need for emergency fire protection services, including hazardous materials response units. The EIR will analyze the site's fire response equipment, water storage and distribution, and firefighting response capability to address any increases in demand at full implementation of the proposed LRDP as well as upon completion of Phase 1. In addition, the EIR will evaluate whether significant impacts would occur should the project result in the need for new or physically altered facilities.		
Police protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RBC-related increases in development and on-site personnel would increase the potential need for police services, which are provided by the UC Police Department. The site's on-site security forces likely would be expanded as needed to accommodate the increases in demand at full implementation of the proposed LRDP as well as upon completion of Phase 1. The EIR will evaluate the anticipated demand on police services and whether significant impacts would arise from any new or physically altered police facilities.		
Schools?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RBC-related increases in personnel could draw more families with school-aged children to the vicinity of the site. The EIR will analyze the potential impacts of this population to nearby primary and secondary schools. This analysis will include data and projections from the City of Richmond General Plan 2030 and projections from local school districts to determine potential impacts and the need for expanded school facilities.		
Parks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RBC-related increases in personnel will draw more people into the area and increase demand for parks and recreational facilities. There are several existing parks and recreational facilities nearby. The EIR will analyze impacts to parks and recreational facilities.		
Other public facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RBC-related increases in personnel could draw more people into the area and increase demand for additional public facilities. The EIR will analyze potential impacts to public facilities, including libraries and planned facilities identified in the City of Richmond General Plan 2030.		

	Will be Analyzed in EIR	No Additional Analysis Required
<b>15. RECREATION --</b>		
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There are several parks within one mile of the RBC site. These include Shimada Friendship Park, Rosie the Riveter Park, Laurel Park, Booker T. Anderson Community Center, and the Point Isabel Regional Shoreline. The Bay Trail is adjacent to the site, and provides a pedestrian and bicycle link along the shoreline that ultimately will provide a continuous link around San Francisco Bay. RBC related growth, including Phase 1, could increase demand for parks and recreational facilities in the area. The EIR will evaluate this issue in the context of current and proposed parkland and open space facilities in the area.		
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Recreational facilities may be developed at the RBC. The EIR will discuss the existing and proposed inventory of recreational facilities in the vicinity and identify any potential impacts to these facilities by the increased daily population resulting from campus development under the proposed LRDP, including Phase 1.		
<b>16. TRANSPORTATION/TRAFFIC -- Would the project:</b>		
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and relevant components of the circulation system, including, but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will analyze the impact of the development of the RBC, including Phase 1, on the local and regional road and highway network, including Routes of Regional Significance as defined for the vicinity of the RBC. Impacts analyzed for transit will include impacts to local bus service and BART lines and connectors. The EIR will also examine potential impacts to pedestrian and bicycle facilities such as the Bay Trail and the local and regional bicycle and pedestrian network.		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Campus development under the proposed LRDP, including Phase 1, is expected to generate increased vehicular traffic that could result in impacts to the local and regional road network. The EIR will analyze local streets and regional highway corridors to determine whether level of service standards would be impacted due to the project. The analysis will utilize the City of Richmond General Plan 2030 to identify proposed and planned changes to the circulation network in and around the RBC. Traffic modeling and forecasting for AM and PM peak hours will be conducted using the most recent version of the Countywide Travel Demand Model developed by the Contra Costa Transportation Authority, the designated congestion management agency.		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Development of the RBC would not alter existing air traffic patterns; therefore, this does not require further study in the EIR.		



	Will be Analyzed in EIR	No Additional Analysis Required
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Create unsafe conditions for pedestrians or bicycles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will analyze the circulation features for access to and within the site with development of the RBC. This analysis will include location and site clearance for signalized and unsignalized intersections, traffic calming features, and related circulation elements. The EIR will discuss the proposed traffic circulation network as it relates to bicycle and pedestrian circulation and access to determine if any potential safety impacts would occur.		
e) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will analyze existing and proposed access and circulation for emergency vehicles in coordination and consultation with emergency service providers.		
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Both LBNL and UC Berkeley have robust transportation demand management programs to encourage use of alternative commute modes. As described in item a), above, the EIR would examine potential impacts to alternative commute systems and facilities due to implementation of the LRDP.		
<b>17. UTILITIES AND SERVICE SYSTEMS -- Would the project:</b>		
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
No wastewater treatment requirements are directly applicable to the proposed project because the wastewater generated on the RBC will not be treated on-site. Wastewater generated on the campus will discharge to the City of Richmond wastewater treatment plant. The EIR will analyze the wastewater output anticipated due to development of the RBC, to determine the ability of the project to comply with the wastewater treatment requirements imposed on the City's wastewater treatment plant by the Regional Water Quality Control Board.		
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will evaluate the increased demand on wastewater treatment and conveyance facilities under the proposed LRDP, including Phase 1, and evaluate potential impacts associated with any new or expanded facilities, if any would be required to meet this demand.		
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Development of the RBC, including Phase 1, would increase impervious surface coverage of the Richmond properties; this in turn may increase the volume of stormwater flow. The EIR will examine and describe the existing site-wide drainage patterns and infrastructure, analyze the increased demand for stormwater drainage facilities with the RBC, and the potential impacts associated with any new or altered drainage facilities required to meet this demand.		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Will be Analyzed in EIR	No Additional Analysis Required
Development of the RBC would include up to 5.4 million square feet of buildings and approximately 10,000 adp. Development of Phase 1 would involve up to 600,000 gsf of new building space and increase the on-site population to 1,300 persons. This would increase the water use on the site; therefore, the EIR will evaluate the projected water demand for the campus relative to the planned water supply and delivery entitlements from EBMUD. The EIR will evaluate potential environmental impacts from expanded or new entitlements.		
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will evaluate whether projected wastewater increases generated at the full implementation of the proposed LRDP, including Phase 1, would be served by existing capacity and identify any environmental impacts should additional wastewater entitlements be required.		
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will discuss the current solid waste generation at the project site and the volume of waste that would be generated at Phase 1 and at full implementation of the proposed LRDP, including Phase 1. The analysis will include projected solid waste disposal needs—including wastes generated from the demolition of existing buildings and structures—and determine whether or not existing landfill capacity would be able to accommodate the waste disposal needs of the RBC. The EIR will discuss the solid waste demands in context of solid waste recycling and composting requirements and guidelines, including the UC Sustainable Practices Policy.		
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The EIR will discuss compliance of the proposed project with applicable statutes and regulations regarding solid waste, including the UC Sustainable Practices Policy.		
<b>18. MANDATORY FINDINGS OF SIGNIFICANCE --</b>		
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Implementation of the 2013 LRDP, including Phase 1, has the potential to have significant impacts that could degrade the quality of the environment. The LRDP EIR will evaluate the potential for campus development under the 2013 LRDP to result in significant impacts that could degrade the quality of the environment, as described in the above checklist.		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	<b>Will be Analyzed in EIR</b>	<b>No Additional Analysis Required</b>
Development of the RBC pursuant to the proposed LRDP, including Phase 1, could cause impacts to several resource areas that will be fully analyzed in the EIR. The project will be evaluated in the cumulative setting. The City of Richmond recently adopted its General Plan 2030 that anticipates new growth and development in the area. This plan, along with other applicable plans and policies from Richmond and other neighboring communities, could contribute to a range of cumulative impacts in the area. The EIR will evaluate whether impacts associated with growth under the 2013 LRDP, in combination with past, current, and reasonably foreseeable future projects, have the potential to be cumulatively considerable.		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The proposed 2013 LRDP has the potential to cause significant impacts. The EIR will evaluate whether these impacts have the potential to result in substantial adverse effects on human beings, either directly or indirectly.		

**List of Acronyms and Abbreviations**

AC Transit	Alameda-Contra Cost Transit District
adp	average daily population
ABPDU	Advanced Biofuels Process Development Unit
BART	Bay Area Rapid Transit
BCDC	Bay Conservation and Development Commission
BMP	best management practice
CEQA	California Environmental Quality Act
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
GHG	greenhouse gas emissions
gsf	gross square feet
I	Interstate
JBEI	Joint Bio Energy Institute
JGI	Joint Genome Institute
KBase	Knowledge Base
LBNL	Lawrence Berkeley National Laboratory
LEED	Leadership in Energy and Environmental Design
LRDP	Long Range Development Plan
NEPA	National Environmental Policy Act
PCB	Polychlorinated Biphenyls
PG&E	Pacific Gas and Electric
PM <sub>10</sub>	inhalable particulate matter
PM <sub>2.5</sub>	fine particulate matter
RBC	Richmond Bay Campus
SFBAAB	San Francisco Bay Area Air Basin
UC	University of California
US EPA	US Environmental Protection Agency